

RATHGEBER, R. et al.
Appl. No. 10/663,987
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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) Radio frequency diplexer having two or more resonators, said diplexer including:

at least three connections, ~~via which~~ providing a common signal path, a transmitting device and associated transmission path, and a receiving device ~~can be connected~~ and associated reception path,

at least ~~one~~ a first resonator associated solely with the transmission path, ~~one~~ said first resonator in-associated solely with the transmission path being provided with an input for feeding in transmission signals,

at least ~~one~~ a second resonator associated solely with the reception path, ~~one~~ said second resonator being provided with an output device in order to output the received signals at the associated connection, and

at least ~~two~~ the third and fourth additional resonators, at least one of ~~which~~ is said third and fourth resonators being provided with an input/output for feeding signals from a common signal path and for outputting signals to a the common signal path, and

further including:

at least two the third and fourth additional resonators forming an interconnection resonator pair which are strongly coupled to one another, wherein

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both the transmission path and the reception path are coupled to the at least one of the third and fourth further resonators for inputting to/outputting from the common signal path.

2. (currently amended) Radio The radio frequency diplexer according to Claim 1, further including wherein:

~~at least two additional resonators, said third and fourth resonators~~ forming an interconnection resonator pair which are strongly coupled to one another, wherein both the transmission path and the reception path are coupled to at least one of the first third and fourth resonators which is provided for inputting to/outputting from the common signal path.

3. (currently amended) Radio The radio frequency diplexer according to claim 1, wherein the third and fourth resonators have inner conductors each having an axis, the distance between the axes of the inner conductors of the interconnection resonator pair is less than the distance between ~~two further~~the first and second resonators which are located alongside one another on the respective signal path.

4. (currently amended) Radio The radio frequency diplexer according to claim 1, wherein the radio frequency diplexer has a total of $2n$ resonators, where "n" is an natural odd integer, with the resonators preferably being arranged in two rows of n resonators each.

5. (currently amended) Radio The radio frequency diplexer according to claim 1, further including a housing and three connecting sockets ~~which are provided~~ are fitted on

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the same side of the housing, for connection of a common signal path, of a transmitter and of a receiver.

6. (currently amended) ~~Radio~~ The radio frequency diplexer according to claim 1, wherein at least one resonator has a coaxial configuration.

7. (currently amended) ~~Radio~~ The radio frequency diplexer according to claim 1, wherein at least one resonator ~~comprising~~ comprises a dielectric resonator.

8. (currently amended) ~~Radio~~ The radio frequency diplexer according to Claim 7, wherein at least one resonator ~~comprising~~ comprises a ceramic resonator.

Please cancel claim 9 without prejudice or disclaimer.

Please add the following new claims:

10 (New). An RF diplexer comprising:

a first resonator associated with a transmission signal path;
a second resonator associated with a receive signal path separate from said transmission signal path; and

plural interconnection resonators associated with a further input/output signal path common to both the receive signal path and the transmission signal path,

wherein said plural interconnection resonators are strongly coupled to one another.

11 (New) The diplexer of claim 10 wherein said plural interconnection resonators comprise a strongly coupled resonator pair.

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12 (New) The diplexer of claim 10 wherein said plural interconnection resonators balance the interconnection between said common input/output signal path and said transmission and receive signal paths.